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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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01/25/2001

Roy B. Carpenter JR.

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08/04/2004

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EXAMINER

PATEL, DHIRUBHAI R

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 08/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/769,670

Applicant(s)

CARPENTER, ROY B.

Examiner

DHIRU R PATEL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### **Part III DETAILED ACTION**

#### ***Specification***

1. The disclosure is objected to because of the following informalities:

On page 6 line 24 and page 7 line 1, " the impedance of the braided copper cable is about one ohm or less " is confusing because it is not clear that what is length of the braided copper cable for the impedance .

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-28 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 line 4, " a low impedance conductor " is confusing because it is not clear that what is the value of the low impedance as well as what is length of the conductor for the low impedance?.

In claim 1 line 4, " a low impedance" is confusing because it is not clear that a low impedance being based on high frequency or low frequency?.

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In claim 8 line 6, " said wire having a low impedance " is confusing because it is not clear that what is the value of the low impedance as well as what is length of the wire for the low impedance?.

In claim 8 line 6, " a low impedance" is confusing because it is not clear that a low impedance is based on high frequency or low frequency?.

In claim 12 line 5, " said cable having a low impedance " is confusing because it is not clear that what is the value of the low impedance as well as what is length of the conductor for the low impedance?.

In claim 12 line 5, " a low impedance" is confusing because it is not clear that a low impedance is based on high frequency or low frequency?.

In claim 18 line 4, " a low impedance conductor " is confusing because it is not clear that what is the value of the low impedance as well as what is length of the conductor for the low impedance?.

In claim 18 line 4, " a low impedance" is confusing because it is not clear that a low impedance is based on high frequency or low frequency?.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter

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sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-28 as best understood, are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Nelson (3,942,674) in view of Claassen et al (5,159,523).

Nelson discloses:

Regarding claims 1 and 18, in a fluid/liquid storage tank with a sidewall 1 (see fig 1, column 1 lines 40-55) and a floating roof 2 (floating cover) floating atop the fluid/liquid (see fig 1, column 1 lines 45-55), and conductor 5 being connected to the floating roof (see column 1 lines 60-68, column 2 lines 1-20), but fails to disclose a reel connected to the sidewall as well as the conductor having a low impedance. Claassen et al teach the use of a low impedance conductor 22 (see column 6 lines 12-20) and also teaches the use of a reel 34 being connected to a sidewall of a tank 14 (see fig 1, column 6 lines 29-35) in order to self-rewind the cable 22 on the reel 34 (see column 6 lines 24-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the conductor 5 of the assembly of Nelson with a reel having a low impedance conductor and said reel being connected to the sidewall as taught by Claassen et al in order to self-rewind the conductor as the floating roof 2 rises and falls in the tank and prevent an arc and a subsequent fire using the low impedance conductor. With respect to

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claim 18, the modified assembly of Nelson meet the structural limitations, such as the low impedance conductor connectable to the floating roof.

Regarding claim 8, a storage tank having a floating roof 2 (floating cover, see column 1 lines 45-55), and a wire 5 having an end connected to the floating roof (see column 1 lines 60-68, column 2 lines 1-20), but fails to disclose said wire having a second end wound around a spool in a reel and said wire having a low impedance as well as said reel having a connection to a wall segment of the tank. Claassen et al teach the use of a low impedance conductor 22 (see column 6 lines 12-20) and also teaches the use of said conductor having a second end of the grounding means 18 (cable 22) being connected to a reel 34 and a wall segment of the tank (see fig 1, column 5 lines 65-68, column 6 lines 1-5) in order to self-rewinding the cable 22 on the reel 34 (see column 6 lines 24-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the conductor 5 of the assembly of Nelson with a reel having a low impedance conductor and said reel being connected to the sidewall as taught by Claassen et al in order to self-rewinding the conductor as the floating roof rises and falls in the tank and prevent an arc and a subsequent fire using the low impedance conductor.

Regarding claim 12, a floating roof 2 (floating cover, column 1 lines 40-50) to an upper segments of a tank (see column 1 lines 45-55), and conductor 5 having and connected from the floating roof to an upper segment of a tank (see column 1 lines 60-68, column 2 lines 1-20), but fails to disclose said cable having a low impedance and means for taking slack out of a cable connected from a floating roof to an upper segment of a tank wall. Claassen et al

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teach the use of a low impedance conductor 22 (see column 6 lines 12-20) and also teaches the use of a means 34 for taking slack out of said cable 22 ( see fig 1, column 6 lines 30) in order to self-rewinding the cable 22 on the reel 34 (see column 6 lines 24-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to replace the conductor 5 of the assembly of Nelson with a reel having a low impedance conductor and said reel being connected to a tank wall as taught by Claassen et al in order to self-rewinding the conductor as the floating roof 2 rises and falls in the tank and prevent an arc and a subsequent fire using the low impedance conductor.

Regarding claims 2 and 19, considering 112 second paragraph, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, including the reel further comprises a take up spool which keeps any slack out of the conductor and maintains a shortest fractional length. It is noted that the modified assembly of the Nelson meets the structural limitations.

Regarding claims 3 and 20, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, including the take up spool further comprises a spring (see column 6 lines 25-30 of Claassen et al, please note that the reel 34 is self-rewinding reel).

Regarding claims 4, 15 and 21, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, but fails to disclose the wire further comprises a bare braided copper cable or a braided conductor. it would have been an obvious matter of design choice to use a wire further comprises a bare braided copper cable

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or a braided conductor , since applicant has not disclosed that a wire further comprises a bare braided copper cable or a braided conductor solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with if designed with said cable of Nelson.

Regarding claims 5 and 22, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, including further comprises a base and bolts 7 (see fig 2 of Nelson).

Regarding claims 6 and 23, see fig 2 of Nelson.

Regarding claims 7,11, 16 and 24, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, considering 112 second paragraph, claims 7, 11, 16 and 24 are included in this rejection.

Regarding claim 9, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, but fails to disclose the wire further comprises a flat braided copper cable. it would have been an obvious matter of design choice to use a flat wire further comprises a flat braided copper cable, since applicant has not disclosed that a flat wire further comprises a bare braided copper cable solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with if designed with said cable of Nelson.

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Regarding claim 10, considering 112 second paragraph, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, including the reel further comprises a take up mechanism to minimize slack in the conductor.

Regarding claim 13, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, including the means of taking slack out further comprises a reel 34 having a take up spool (see fig 1). It is noted that the modified assembly of the Nelson meets the structural limitations.

Regarding claim 14, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, including the take up spool further comprises a spring functioning to constantly pull up on the cable (see column 6 lines 25-30 of Claassen et al).

Regarding claim 17, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above. It is noted that the modified assembly of the Nelson meets the structural limitations.

Regarding claim 25, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, but fails to disclose a plurality of said reels and low impedance conductors. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide any number of said reels and low impedance conductors, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 26, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, but fails to disclose a plurality of said reels and wires. It

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would have been obvious to one having ordinary skill in the art at the time the invention was made to provide any number of said reels and wires since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Regarding claim 27, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, but fails to disclose a plurality of said means. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide any number of said means, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Regarding claim 28, the modified assembly of the Nelson discloses all the features of the claimed invention as shown above, but fails to disclose a plurality of said reels. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide any number of said reels, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

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**Contact information**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dhiru Patel whose telephone number is 571-272-1983. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pairedirect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

Dhiru Patel  
Primary Examiner  
Group Art Unit 2831  
May 10, 2004

*Dhiru R Patel*  
*Primary Examiner*  
*5/10/04.*